V9950 Series

Graphics Card

V9950 Ultra / TD / 256M
V9950 / TD / 128M

USER'S MANUAL

Hardware Guide

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Product Name:	**ASUS V9950 Series**
Manual Edition:	**First Edition V1 E1335**
Release Date:	**May 2003**

ASUS CONTACT INFORMATION

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Support Email:	www.asuscom.de/kontakt (for online support)
Web Site:	www.asuscom.de

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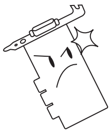
About this guide

Conventions used in this guide

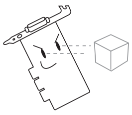
To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



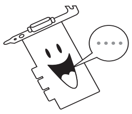
WARNING/DANGER: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Information that you MUST follow to complete a task.



NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS Websites**

   The ASUS websites worldwide provide updated information on ASUS hardware and software products. The ASUS websites are listed in the ASUS Contact Information on page 3.

2. **Optional Documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Notices

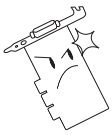
Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Macrovision Corporation Product Notice

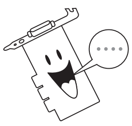
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1. Introduction

Thank you for purchasing an **ASUS V9950 Series GPU Graphics Card**. With this purchase, you join a legion of mainstream graphics enthusiasts. Powered by the **NVIDIA™ GeForce FX™ 5900Ultra/5900** graphics processing unit (GPU), the **ASUS V9950** series delivers breakthrough leading-edge graphics performance. Enjoy superior image fidelity regardless of the CPU (central processing unit) employed by the computer system.With the **ASUS V9950** series, you will not only see but also experience stunning, dynamic, realistic 3D worlds and characters.

Highlights

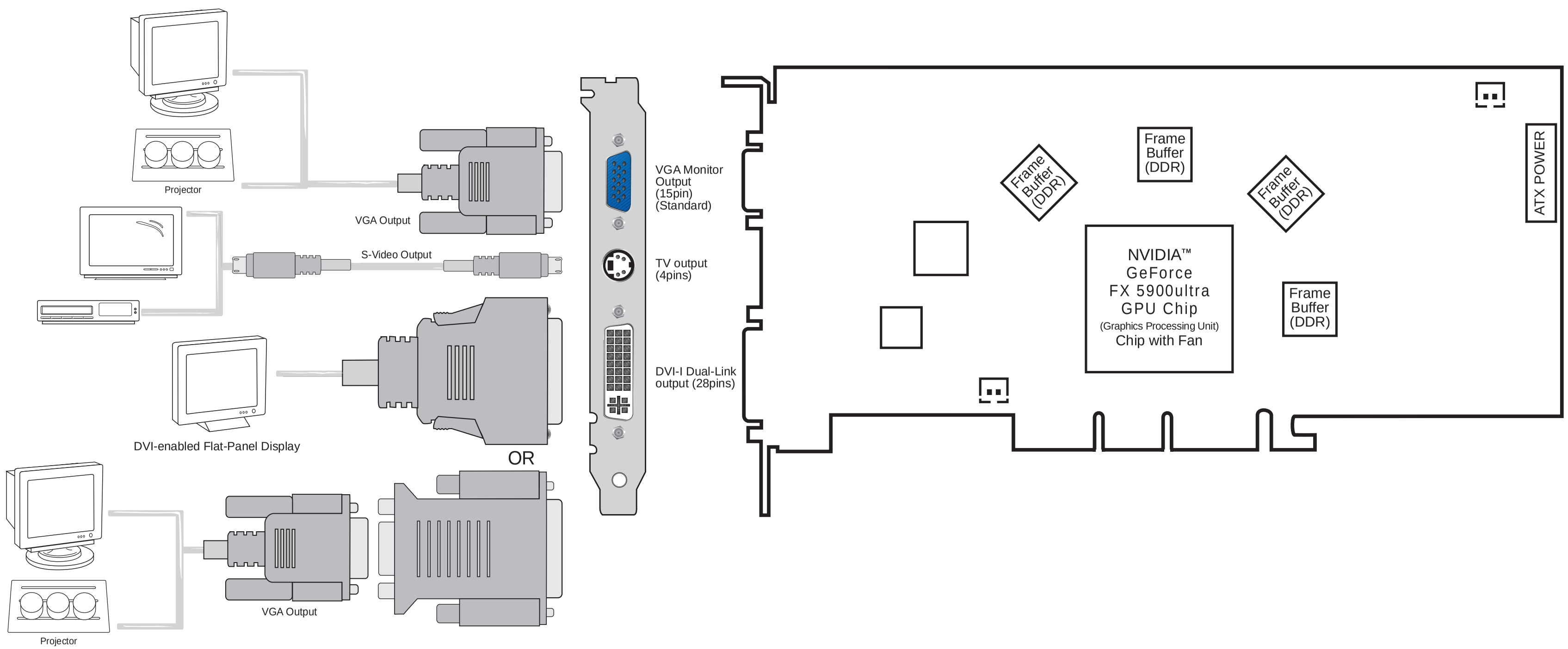
- **Powered by the most programmable, precise and powerful CineFX2.0 GPU: NVIDIA® GeForce FX 5900Ultra/5900**
  ~ Delivers cinema-quality video to your PC.
- **Built-in 256/128MB DDR frame buffer with 256-bit bus:**
  ~ Provides the most resolution and color depth.
- **Advanced CineFX 2.0 shader engine:**
  ~ Delivers 2x floating-point pixel shading power of our previous generation.
- **UltraShadow:**
  ~NVIDIA® 's new patent pending shadow volume acceleration technology, significantly enhances the performance for the latest engines such as Doom 3 and Abducted.
- **Intellisample HCT (Hi-resolution Compression Technology):**
  ~ with new anisotropic algorithms, bring 50% efficiency improvement in texture, color and Z compression than previous solutions, automatically providing a boost to antialiasing.
- **ASUS innovative GameFace Technology:**
  ~real-time audio/video communication feature, elevates the interactive gaming experience by enabling point-to-point video conferencing functions and online gaming to take place simultaneously.
- **AGP 8X support:**
  ~By adding support for the newest AGP 8X (AGP 3.0) standard, the V9950 series takes advantage of the new peak AGP bandwidth of 2.1 GB/s to offer even higher graphics.
- **nVIEW™ display technology:**
  ~ Supports TV encoder at 1024 x 768 resolution and two independent display pipelines, providing the ultimate multiple display flexibility and user control.
- **Optimized for DirectX® 9.0 and OpenGL® 1.4 features:**
  ~ Ensures broad application support.
- **High-resolution LCD screen support**
  ~ Supports up to 1600 x 1200 maximum LCD monitor resolution.



Actual screen resolution varies depending on LCD monitor resolution.

ASUS V9950 Ultra Layout

256MB DDR Frame Buffer



Item Checklist

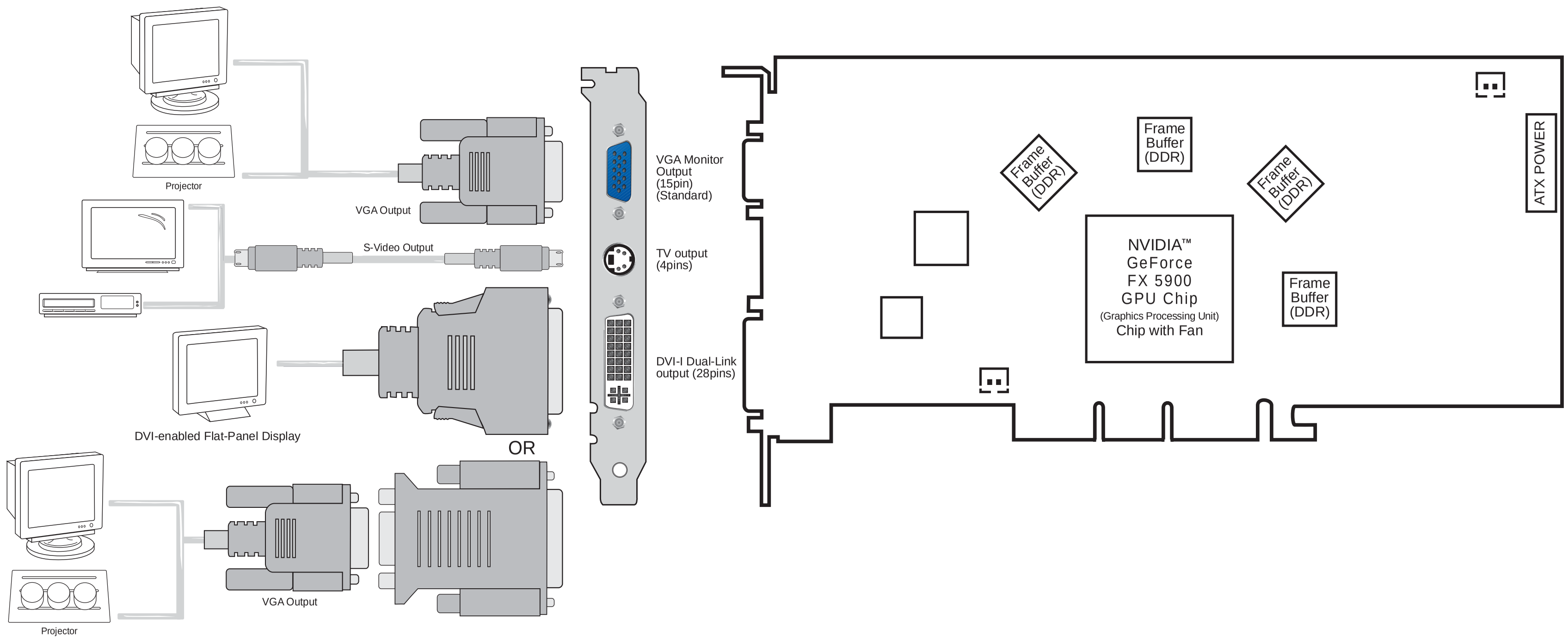
- ☑ ASUS V9950 Ultra 256M Graphics Card (PAL or NTSC)
- ☑ This User's Manual
- ☑ ASUS V9950 Ultra Driver and Utility CD Disc

Notes

- Use the same TV standard for all devices.
- Drawings are for reference only; actual cards may vary.

ASUS V9950 Layout

128MB DDR Frame Buffer



Item Checklist

☑ ASUS V9950 TD Graphics Card (PAL or NTSC)

☑ This User’s Manual

☑ ASUS V9950 Driver and Utility CD Disc

Notes

- Use the same TV standard for all devices.
- Drawings are for reference only; actual cards may vary.

3. Resolution Table

Resolution	Vertical Frequency	Horizontal Frequency	Color Depth 8bpp = 256 colors Standard	 16bpp = 65K colors High Color	 32bpp = 16.7M colors True Color
640 x 480	60Hz	31.5	√	√	√
	70Hz	34.9	√	√	√
	72Hz	37.9	√	√	√
	75Hz	37.5	√	√	√
	85Hz	43.3	√	√	√
	100Hz	51.0	√	√	√
	120Hz	61.8	√	√	√
	140Hz	72.9	√	√	√
	144Hz	75.2	√	√	√
	150Hz	78.7	√	√	√
	170Hz	90.3	√	√	√
	200Hz	108.0	√	√	√
	240Hz	132.9	√	√	√
800 x 600	60Hz	37.9	√	√	√
	70Hz	43.8	√	√	√
	72Hz	48.2	√	√	√
	75Hz	46.9	√	√	√
	85Hz	53.7	√	√	√
	100Hz	63.7	√	√	√
	120Hz	77.2	√	√	√
	140Hz	91.1	√	√	√
	144Hz	94.0	√	√	√
	170Hz	112.7	√	√	√
	200Hz	135.1	√	√	√
	240Hz	166.2	√	√	√
1024 x 768	60Hz	48.4	√	√	√
	70Hz	56.4	√	√	√
	72Hz	57.5	√	√	√
	75Hz	60.0	√	√	√
	85Hz	68.7	√	√	√
	100Hz	81.7	√	√	√
	120Hz	98.8	√	√	√
	140Hz	116.6	√	√	√
	144Hz	120.2	√	√	√
	150Hz	125.7	√	√	√
	170Hz	144.1	√	√	√
	200Hz	172.8	√	√	√
	240Hz	212.1	√	√	
1152 x 864	60Hz	53.7	√	√	√
	70Hz	62.9	√	√	√
	72Hz	64.9	√	√	√
	75Hz	67.5	√	√	√
	85Hz	77.1	√	√	√
	100Hz	91.3	√	√	√
	120Hz	111.2	√	√	√
	140Hz	131.3	√	√	√
	144Hz	135.2	√	√	
	150Hz	141.4	√	√	√
	170Hz	162.9	√	√	√
	200Hz	194.9	√	√	
1280 x 960	60Hz	60.0	√	√	√
	70Hz	69.9	√	√	√
	72Hz	72.1	√	√	√
	75Hz	75.2	√	√	√
	85Hz	86.0	√	√	√
	100Hz	101.7	√	√	√
	120Hz	123.5	√	√	√
	140Hz	145.1	√	√	√
	144Hz	150.5	√	√	
	150Hz	157.2	√	√	√
	170Hz	179.8	√	√	

3. Resolution Table

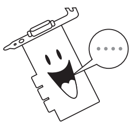
Resolution	Vertical Frequency	Horizontal Frequency	Color Depth: 8bpp = 256 colors Standard	Color Depth: 16bpp = 65K colors High Color	Color Depth: 32bpp = 16.7M colors True Color
1280 x 1024	60Hz	64.0	√	√	√
	70Hz	74.6	√	√	√
	72Hz	76.8	√	√	√
	75Hz	80.0	√	√	√
	85Hz	91.3	√	√	√
	100Hz	108.5	√	√	√
	120Hz	131.7	√	√	√
	140Hz	155.9	√	√	√
	144Hz	159.6	√	√	
	150Hz	167.3	√	√	√
	170Hz	191.8	√	√	
1600 x 900	60Hz	55.9	√	√	√
	70Hz	65.6	√	√	√
	72Hz	67.5	√	√	√
	75Hz	70.5	√	√	√
	85Hz	80.4	√	√	√
	100Hz	95.3	√	√	√
	120Hz	115.4	√	√	√
	140Hz	136.8	√	√	
	144Hz	140.4	√	√	
	150Hz	146.8	√	√	
1600 x 1200	60Hz	75.0	√	√	√
	70Hz	87.5	√	√	√
	72Hz	90.1	√	√	√
	75Hz	94.0	√	√	√
	85Hz	106.1	√	√	√
	100Hz	127.5	√	√	√
	120Hz	154.5	√	√	
1920 x 1080	60Hz	67.1	√	√	√
	70Hz	78.7	√	√	√
	72Hz	81.1	√	√	√
	75Hz	84.6	√	√	√
	85Hz	96.4	√	√	√
	100Hz	113.9	√	√	
1920 x 1200	60Hz	74.6	√	√	√
	70Hz	87.4	√	√	√
	72Hz	90.0	√	√	√
	75Hz	94.0	√	√	√
	85Hz	106.7	√	√	√
	100Hz	126.7	√	√	
1920 x 1440	60Hz	89.4	√	√	√
	70Hz	104.9	√	√	√
	72Hz	108.5	√	√	
	75Hz	112.5	√	√	√
	85Hz	129.4	√	√	
2048 x 1536	60Hz	95.5	√	√	√
	70Hz	111.9	√	√	
	72Hz	115.3	√	√	
	75Hz	121.3	√	√	

4. ASUS GameFace

4.1 Introduction

The revolutionary ASUS GameFace is a real-time audio/video communication feature that enhances interactive gaming experience by enabling point-to-point video conferencing functions and online gaming to take place simultaneously thus allowing you to see and talk to your opponents while playing full-screen online games!





Visit the ASUS website (www.asus.com) for more information about the ASUS GameFace technology.

4.2 Installing ASUS GameFace

Follow the given instructions to install ASUS GameFace.

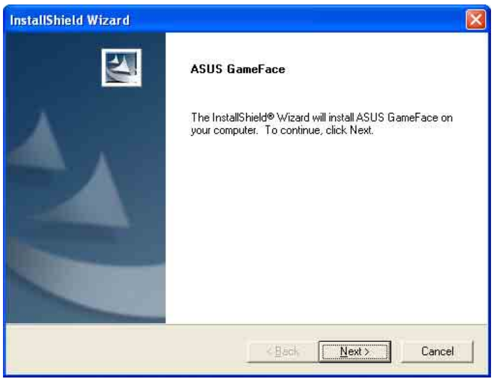
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.

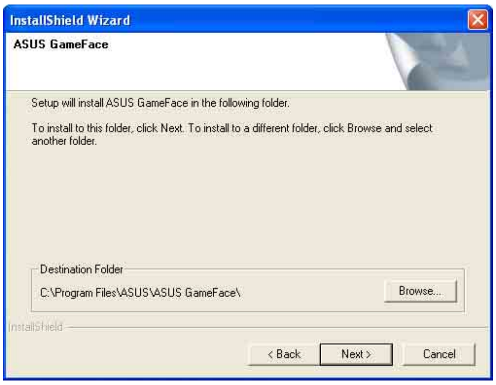


2. The **Utilities** box appears. Click **Install ASUS GameFace.**

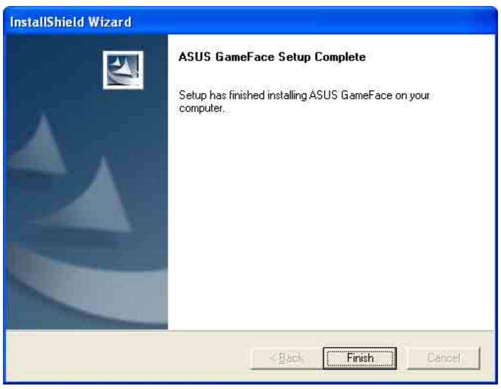
3. From the **Welcome** box, click **Next** to start the installation.



   To complete the installation, simply follow the on-screen instructions or prompts.



4. Click **Finished** after the installation is complete.

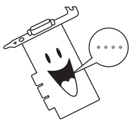


4.3 Using ASUS GameFace

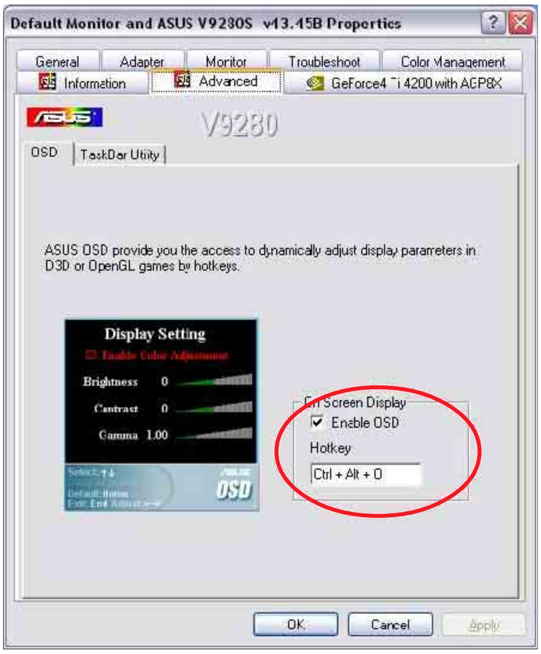
Follow the given instructions to use ASUS GameFace.

STEP 1: Enabling ASUS OSD

- Open **Display Properties** dialog box from desktop or control panel.
- Select **Advanced** tab on Settings page.
- Select **OSD** from in Advanced tab.
- Check the **Enable OSD** check box and input the appropriate hotkey.



You can also enable the On-Screen Display (OSD) in the GameFace application.



STEP 2: Launch ASUS GameFace

- ASUS GameFace automatically detects the connected audio/ video WDM capture device upon start-up. You can change the input device from **Options** in the **Tool** menu if you have more than one audio/video device.



STEP 3: Local Playback Mode

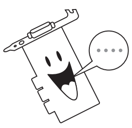
- Select **Local Play/Stop** from the File menu to start local playback when local video is not playing.
- Select **Local Play/Stop** from the File menu to stop local playback when playing local video.
- You can also press the **Play/Stop** button to start or stop local playback.



STEP 4: Network Playback Mode

- Connect to remote computer:
  - Input the computer name (Local Area Network) or IP Address in the combo box.
  - Select **New Call** from the File menu or press the “Make a Call” button.
  - You will see and hear the remote audio/video signal if the remote computer accepts the call.





For computer name and IP addresses go to Tools->Info for lists of information.

- Waiting for connection:
  - Launch ASUS GameFace
  - A message box appears on an incoming call. Click **Yes** to accept the call.
  - Select **End Call** from the File menu or press the “End the Call” button to disconnect.



STEP 5: GameFace Settings



- Select **Option** from the Tool menu.
- Select **GameFace Option Dialogue**
- Enter GameFace page to adjust transparency, position and hotkey settings.

STEP 6: Launch Game and show GameFace



- Begin your game.
- After entering Full-Screen mode, press the hotkey (default is **Ctrl+Alt+V**) to activate GameFace.
- Press the On-Screen Display hotkey to show the OSD menu.
- Use the arrow keys to select the GameFace application page and adjust the Transparency, Position X, Position Y, Size or toggle to enable or disable GameFace.